

Famine, exchange networks, and the village community. A comparative analysis of the subsistence crises of the 1740s and the 1840s in Flanders

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Abstract

This article focuses on local agency in two near-famines in 18th-century and 19th-century Flanders.¹ In a comparative exercise, we aim to map out and understand the reorganisation of private and public social relations in two periods of sudden social distress. Our analysis of the food crises of 1740 and 1845-1847 in Flanders exposes the local mechanisms of coping and protection, both in an informal and a formal way. How did collective exchange and credit networks cope with the sudden stress of a (possible) hunger crisis? Which actions were taken by local and supra-local authorities against the threat of famine? Our main thesis is that the impact of hunger crises in peasant societies is directly related to the level of stress absorption within the local village community. In Flanders, intra-village distributional networks changed profoundly between the middle of the 18th and the middle of the 19th century. Local management strategies shifted from predominantly informal networks to predominantly formal institutions. Our findings contradict the traditional vision of a more or less straightforward shift in famine crisis management from rural, local and informal to urban, supra-local and formal. The success of surmounting a food crisis has always had local roots.

1. Famines as community crises

Subsistence crises, and particularly Ancien Régime crises, have been the subject of extensive historical research for a long time. The central focus, triggered by a Malthusian and a Marxian perspective, was on macro processes such as the relationship between famine crises and demographic crises, and the impact of subsistence crises on revolutionary political events.² In the 1980s the focus shifted to famines as social and communal processes that cause ‘the accelerated destitution of the most vulnerable, marginal and least-powerful groups in a community, to a point where they can no longer, as a group, maintain a sustainable livelihood.’³ This broader interpretation is inspired by the food entitlement approach of the Indian economist Amartya Sen, amongst others. Agency became central, particularly people’s actions regarding a decreasing ‘command over food’.⁴ The entitlement approach moved the focus from availability of food (production based) towards the distribution of food (market based). As Devereux pointed out, it failed to take into account the ‘importance of institutions in determining entitlements’, such as households and village communities (transfer based).⁵ Internal household power relations and community networks often remain hidden. This was also true of what Devereux called fuzzy entitlements, generated from communal property regimes, and rights or claims over resources that are held collectively. ‘Rights can also be exercised at varying levels, from ownership (the strongest form, including rights of disposal) to access and usufruct rights (the weakest form, where ownership and use are often separated)’.⁶

This debate confirmed the interpretation of famines as community crises, where scarcity and human suffering is accompanied and aggravated by a social breakdown, ‘a syndrome with webs of causation through which communities lose their ability to support marginal members who consequently either migrate because lack of access to food, or die of

starvation or starvation related disease.’⁷ That is why famines are unique experiences that occupy a finite span of historical time and human experience while also being recurring patterns that reveal insight into a society’s deeper and more enduring difficulties.⁸

The notion of famine as an event (sudden crisis), process (accelerated destitution) and structure (the breakdown of societal networks) creates the need for more integrated famine research. This includes individual and household coping strategies dealing with acute forms of stress as well as reactions from public authorities.⁹ Even though a lot of new famine research includes historical studies, amongst others the work of Cormac O’Grada, there is still much we do not know about the agency factor, particularly local exchange networks (markets) of food, labour and credit in periods of extreme economic stress.¹⁰ It is often assumed that during famine crises existing market and non-market institutions for credit and insurance perform less well, or even collapse. Patronage lineages succumb and alternative, ‘anti-social’ behaviour increases.¹¹ However, this is not always the case. What is the role played by these networks in periods of severe social stress? To answer this question, new research must also concentrate on cases where famines did not kill on a massive scale, or where crop failures did not result in a severe famine crisis.¹² Research that concentrates on extreme situations risks narrowing the focus to the event character rather than to structural variables such as mechanisms of resistance and adaptability.¹³

2. Collective coping strategies and public risk management

A re-examination of rural subsistence crises must aim at a broader understanding of the societal context: families, neighbourhoods, villages, local and supra-local public authorities. Moreover, this research must not only focus on the visible disasters of hunger, death and societal breakdown, it must also focus on processes of absorption, adaptation and recovery. In short, it must focus on disasters as well as on near disasters or non-disasters. Why did famine

not break out? To understand the difference between real and almost famines we need a more integrated analysis. On the most basic level, we must understand the direct impact of a food crisis, in traditional terms expressed in measures of food availability decline (crops and livestock production, market provisioning), the levels of human suffering (mortality, health and disease), and the demographic adaptive strategies (marriage, fertility, migration). On a second level - the focus of this article - we have to understand the formal and informal collective coping strategies. This integrated view implies a knowledge of local economics and politics.

The main focus of this article is the local village society from a dual perspective. Firstly, how did the local population as a group cope with the sudden stress of a (possible) hunger crisis? Secondly, how did local authorities react to this threat of famine? Coping is defined as the manner in which people act within the constraints of existing resources on the one hand and the entitlements they receive to command them on the other hand. Individual resources for coping with famine include labour, land, tools, seed for crops, livestock, draft animals, storable food stocks, cash and valuables that can be sold. The most common individual and household strategies are adaptations of demographic behaviour and consumption patterns, intensification and diversification of the use of family labour, and selling assets and land. Collective coping strategies point at relationships related to exchanging these assets. These strategies can be either defensive and protective or active and offensive.¹⁴ They can also be embedded in existing societal agreements (accessing markets, exercising rights, calling upon obligations or moral duties, strengthening and enlarging networks of patronage and social support). Securing basic needs goes together with an appeal to guarantee the basic rights of entitlement. If this fails, new forms of coping strategies can break the former rules by circumventing legal and moral laws or by physically leaving the livelihood. They point at a breakdown of the societal structures.

Research on the impact of contemporary crises and natural disasters on household coping strategies reveals a multitude of risk management arrangements on both a household and a collective level.¹⁵ Table 1 summarizes the range of choices households have for managing risk in crisis situations (immediate shocks and longer-term crisis situations). The use and effectiveness of these protection strategies depend on the impact of the crisis, the compatibility of individual choices and the efficiency of public actions. Strategies may also conflict with short-term and long-term goals: reallocation of intra-household labour input and/or food intake can save assets but can harm long term health, especially of children; selling assets can jeopardize the survival of the farm; violating moral standards in using collective goods can harm future participation in credit networks or group-based insurance regulations; adjustments in fertility strategies can affect long-term household labour-supply. Public interventions during a period of sudden crisis also have multiple dimensions, as shown in Table 2. We can distinguish between short-term actions (relief transfers, market regulation and price subsidies), middle-term interventions (investments in public works and employers business), and long-term initiatives (strengthening credit networks, schooling and health care facilities). They all put serious pressure on public assets, so choices are often weighted in favour of immediate implementation and effects.

[Insert Table 1 and Table 2 here]

The main goal of this article is not only to measure and explain two (near-) famines in Flanders. By adapting the concepts of household and public risk management, we want to map out and understand the reorganisation of private and public social relations in two periods of sudden social distress. We focus on the relationship between these two sets of collective strategies, on the way they supplement or replace each other. We will look at both

formal and informal local coping and protection mechanisms using two sets of measures: crises proxy (mortality, criminality) and affirmative actions (actions of public authorities, local credit networks). Our main thesis is that the impact of hunger crises in peasant societies is directly (but inversely) related to the level of stress absorption and risk spreading within the local village community. In Flanders, intra-village distributional networks changed profoundly between the middle of the 18th and the middle of the 19th century. Local management strategies shifted from predominantly informal networks to predominantly formal institutions. This transition is rooted in structural changes in the Flemish rural society in the 18th and 19th centuries. Our findings contradict the traditional vision of a more or less straightforward shift in crisis management from rural, local and informal to urban, supra-local and formal. Surmounting famine crises has always had local roots.

3. Flemish peasantries

The Flemish countryside between 1750 and 1850 has often been described as the marvel of the (western European) agricultural world.¹⁶ It was generally acknowledged that this Flemish husbandry represented the upper scale of what could be obtained in agricultural techniques and production. Agricultural land was almost continually in use, crop yields were high and the land was able to sustain a dense population. The basic production unit was the small family farm, characterized by an extremely high labour input. Typically, between 1750 and 1850, Flemish smallholdings were smaller than one or two hectares, often tilled by the spade. These small family holdings were deeply embedded in local village economies but also participated in regional and national economies through local markets and larger farms, and even in the international economy via linen export. Each village had its larger farms, linked to peasant holdings via complex dependence relationships and credit systems in the form of labour, goods, services and sometimes money. Smallholders exchanged their labour surplus for the

capital and goods surplus (such as horsepower) of larger farmers. These local credit networks connected subsistence farming with external markets.¹⁷

For centuries, the Flemish commercial peasant economy guaranteed the survival of a large majority of families in Flanders.¹⁸ The last period of accelerated growth started in the middle of the 18th century, resulting in unprecedented levels of agricultural yields. Between 1750 and 1850, the population of Belgium almost doubled. In the already densely populated Flemish area, population grew by 75 per cent. This increase was an entirely rural phenomenon related to the success of traditional agrarian society. In 1850, population density in Flanders had increased to 233 inhabitants per square kilometre, one of the highest densities at that time. The region only had one centre of urban growth: the industrial city of Ghent. Demographic and financial pressures on husbandry had a favourable effect on yields. In the 18th century, the agriculture of the Southern Netherlands was highly productive.¹⁹ It was able to feed a rapidly increasing population. In addition, approximately 5 per cent of the grain harvest could be exported as surplus. A permanent effort to improve physical yields in arable farming was the only way to avoid a structural food shortage. The increase in total agricultural output was largely due to diversification and further improvement of existing production methods. Rising food production was the combined result of increased yields resulting from more intensive soil cultivation in arable farming, the spread and differentiation of crop rotation (without fallow), the introduction and spread of new crops (potato), and longer, often permanent stabling of livestock. Nevertheless, by the beginning of the 19th century, tension was building between population increases, farm structure and production volumes.²⁰ In spite of yield increases, the agricultural sector in the Southern Netherlands could not keep pace with population growth. Agricultural production grew at an average annual rate of 0.58 per cent between 1760 and 1850 and population grew at a rate of 0.69 per cent in the same period. In spite of occasional supply crises, this imminent problem did not result in a structural hunger

crisis. This is related to the fact that the Southern Netherlands shifted from being a bread grain exporter to a grain importer (10 per cent to 15 per cent of needs in the mid-19th century). Moreover, the enormous success of the potato enabled arable farming to keep pace with population growth (with an annual output increase of 0.74 per cent between 1760 and 1850 compared to 0.30 per cent for the livestock sector).

In the first half of the 19th century, soil yields rose to unprecedented levels. In the middle of the 19th century, average bread-grain yields (including oats and barley) were 40 per cent to 50 per cent higher than a century before; potato yields increased even more. Rising yields and the expansion of cultivated acreage – an additional 17 per cent between 1760 and 1850 due to land reclamation and further fallow reduction – meant that a structural food shortage could be avoided. Demographic growth strengthened the role of agriculture as a producer of staples: bread grains and potatoes. However, physical yield increases had their limits. Expressed in yield ratios, i.e. the ratio of seed sown to seed harvested, productivity growth in grain and potato cultivation was rather modest. The key to physical yield increases was higher labour input. Labour intensification in the field – digging, manuring, weeding, etc. – explains the survival of the rural way of life up until the third quarter of the 19th century. Average labour input per hectare in Flanders increased by almost 50 per cent between 1760 and 1850.²¹ Most likely, the physical growth of Flemish agriculture was accompanied by stagnating or even decreasing labour productivity. Foreign observers, surprised by the intensive cultivation of small plots of land, spoke of Flemish horticulture.²²

The success of arable farming averted a structural supply crisis in Belgium in the first half of the 19th century. On the other hand, Belgian rural society was characterized by increased differentiation and polarization. In the most densely populated regions of the country (Flanders and the western part of Brabant), 40 per cent to 50 per cent of the farms were less than one hectare and 80 to 85 per cent were less than five hectares. During the 18th

and 19th centuries, land fragmentation increased due to a combination of partible inheritance, increased peasant debt, severe population pressures and the introduction of the potato. Consequently, the need for income from other sources increased. In addition, land and farms increasingly had to be rented. In central Flanders in the second half of the 18th century, two out of three farms were cultivated on lease. Increased land competition caused rents to rise. In the mid-18th century, the annual rent of a hectare of arable land was equivalent to 30 times the daily wage, but by the turn of the century, this price had doubled and by 1850, it had tripled. It is no accident that prices increased the most in regions where farm-fragmentation was the greatest, leasing was dominant, and flax and linen cottage industries were widespread. These areas also saw accelerated commercialization of rural life (many small and regional markets) and the revival of small and medium-sized cities. Flemish peasants responded to this increased financial pressure by working even harder on the land, and augmenting their income at the spinning wheel and the loom. In the first half of the 19th century, a quarter to half of the population of central Flanders worked in the rural flax and linen industry. Until the 1840s, 300,000 to 400,000 villagers earned extra income in this proto-industrial labour. Starting in the 1820s, decreased yarn and cloth prices increased pressure on the Flemish peasants' income. By the 1830s, one out of every five Flemish families was registered as indigent. Figure 1 shows that the highest ratios of supported poor were registered in the south, the proto-industrial region with an extremely high number of small farms. An exception was the south-west of West-Flanders, a region with a high number of commercial farms and a corresponding share of wage labour. The majority of surpluses produced by household farming were drained away due to (unequal) labour, credit and lease relationships.²³ The Flemish peasant economy was thus responsible for a majority of national economic growth. A high social price was paid for this growth; countryside impoverishment was clearly apparent by the middle of the 19th century.

Figure 1. Map of Eastern and Western Flanders in 1846: rate of farms less the 1 hectare and rate of registered poor (%).

[insert Figure 1 here]

Source : Data on farm size from *Agriculture. Recensement général de 15 octobre 1846* (Brussels, 1850) ; data on poor from *Population. Recensement général de 15 octobre 1846* (Brussels, 1849). Map by Torsten Wiedemann, HISSTAT - Central database of historic local statistics in Belgium, Ghent University, History Department

4. The subsistence crises of 1740 and 1845-1847

Even though Flanders experienced high yield agriculture from the late Middle Ages onwards, food and subsistence crises seem to have been a part of life for most generations of peasants until the 18th century. Between 1660 and 1750, food shortages were a recurrent feature in the Southern Netherlands. Most harvest failures were triggered by climatic factors, but the effects were aggravated by the almost endemic warfare that characterized the late 17th and early 18th centuries. During this period, the crises of 1696-1698, 1709 and 1740 stand out when looking at prices for basic foodstuffs. After 1750, food shortages became less frequent. Traditionally this has been seen as the result of both substantial rises in agricultural production and more efficient government action and monitoring of food supplies.²⁴ The late 18th century marked a short return to the Old Regime pattern when in 1794-1795 a combination of war and harvest failure resulted in high mortality rates. During the first half of the 19th century, the Southern Netherlands experienced food shortages in 1816-1817 and in 1845-1847. After the middle of the 19th century, food crises (excluding wartime periods) were no longer prevalent in the

Southern Low Countries. Every crisis listed above was characterized by a decline in food production, rising price levels and a peak in mortality rates. However, these basic characteristics hide highly distinctive origins, effects and outcomes. How can the food crises of the 1740s and the 1840s be compared?

The food shortages were not a local phenomenon in 1740. Most Western European countries were affected because climatic factors were the origin of this harvest failure. Unlike many other food crises in the early modern period, 1740 was clearly associated with elevated levels of mortality on a wider European scale. In the decades preceding 1740, some regions were able to build up some immunity from the mortality penalty associated with harvest failures and high food prices.²⁵ In 1740 food supply and mortality were closely related in most European countries.²⁶ Consequently, 1740 is sometimes viewed as the last great food and mortality crisis of Old Regime Europe. The origin of the drop in food production is the harsh winter of 1739-1740. The winter of 1740 was characterised by two distinct features. Firstly, temperatures were exceptionally low by 18th-century standards. In Brussels, for example, temperatures of minus 18-19 degrees Celsius were not uncommon.²⁷ More importantly, this winter was exceptionally long. In the collective memory, the legendary winter of 1709 was an exceptionally cold winter (*le grand hiver*), whilst 1740 is remembered for its long period of frost (*le long hiver*). Because of this long period of frost - negative temperatures were recorded until May – most crops were partially or completely destroyed. The crops that survived the extreme temperatures could only be harvested very late. The winter of 1740 disrupted the annual growth and supply cycle of crops, and reduced per capita food supply. In addition, the harvest of 1739 was markedly lower compared to earlier years so grain stocks were insufficient to bridge the gap until the delayed harvest of 1740. When stocks were exhausted in late April and early May and the prospects of an early and abundant harvest

dwindled, prices started to rise. It is highly likely that rising price levels in the spring of 1740 were incited by panic as well as a severe distortion of supply and demand.

Figure 2: Index of rye prices on selected Flemish markets, 1735-1745 (1735 = 100).

[Insert Figure 2 here]

Source: see references in note 28.

Figure 2 shows that the price of rye had been increasingly steadily since 1736 and that prices peaked in 1740.²⁸ Although prices appear to have risen continuously over several years, inflation struck particularly hard in 1740 when prices peaked at 25 per cent to 30 per cent above the already high level of 1739. From 1736-1740 the purchasing power of labourers declined by about 60 per cent. Even more striking is the spectacular fall in price levels in 1741 (the year following the harvest failure of 1740); prices stabilized at their pre-1735 level. In terms of food availability, rye prices suggest that the harvest crisis was rather short and limited to the period between April 1740 and October 1740. However, the impact of the harvest failure on direct food supply is difficult to measure. In May 1740, the Austrian government ordered a detailed inventory of all grain supplies in the Austrian Netherlands. Local magistrates were instructed to inspect every house and record the quantity of grain stocks.²⁹ This information enabled the government to chart grain supplies in the country and identify the regions that either had a surplus or shortage of grain until the next harvest. We assume that this source underestimated the quantities of grain that households possessed, but some important conclusions can be drawn from this exercise. In the rural district of Bruges,

data indicate that there was just enough grain to last until the next harvest. Although the projected demand for grain was 1 per cent higher than available supplies, this region was able to meet demand in the following months. In the rural district of Oudenaarde, the situation seems to have been more dramatic. Out of 33 villages, only three claimed that they had enough grain to last until the next harvest. Most parishes recorded shortages that varied between 30 per cent and 75 per cent of the available stock.³⁰ The differences in the availability of grain reflect different agricultural structures. In the northern part of the district of Bruges (Polder region), large farms dominated the agricultural and economic landscape whilst the more southern region of Oudenaarde (sandy inland Flanders) was primarily characterized by smallholdings.³¹ Before taking measures, the government needed information about the possibilities of intra-country grain transfers. The exercise indicated that there was indeed an objective threat of food shortages and that most regions had insufficient supplies until the harvest of 1740. One of the effects of grain scarcity and high prices in 1739 and 1740 was the accelerated spread of the potato in the fields and on the menu of the rural population.³²

The food crisis of 1740 has typically been credited with high grain prices, food shortages and increased mortality. However, the demographic effects of the crisis of 1740 are not straightforward. Although mortality rates rose during the late 1730s and early 1740s, no unique link between food prices and mortality rates can be discerned. In the absence of reliable population data, the intensity of mortality has been reconstructed using the method of intensity of mortality crises.³³ In our sample, we recorded the number of burials in 26 rural parishes between 1730 and 1744.³⁴ In the period 1735-1744, all parishes under observation experienced at least one year of heightened mortality. In most villages (20 out of 26), crisis mortality was recorded in two or three years during this decade. The decade 1735-1744 rather than the year 1740 should thus be associated with crisis mortality. This is even more apparent

when the timing of these crises is reconstructed. In these 26 parishes, 58 crisis years can be observed. As Table 3 clearly indicates, 1740 does not stand out. Mortality was particularly high in 1741 and 1742 when food prices had already dropped. According to contemporary observations, increased mortality during this period was the result of typhus, typhoid fever, and relapsing fevers.³⁵ This data supports Post's conclusions on a more European scale and indicates that there was no clear-cut link between price levels and mortality rates.³⁶ Although 1740 was clearly marked by a fall in per capita food supply, this did not directly influence mortality levels.

Table 3. The number of parishes experiencing a mortality crisis in each year 1735-1744; 26 Flemish rural parishes.

[insert Table 3 here]

Source: see note 34.

The direct cause of the mid-19th century subsistence crisis in Europe was the failure of potato harvests in the years 1845–1850.³⁷ Compared to other countries, Belgian potato fields were affected by the potato blight, *phytophthora infestans*, much earlier (from mid-July 1845). The potato blight destroyed 87 per cent of 1845 harvests and in Flanders, the epicentre of the potato disease, losses amounted to 95 per cent of the crop. Over the following years, harvests were also poor because fewer potato seedlings were planted and yields remained low. Between 1846 and 1850, barely a third of the 'normal' potato harvest was gathered in Flanders. The food situation became very precarious in late 1846 and the first half of 1847

due to poor bread-grain harvests. Bad weather conditions in 1846 caused the rye harvest (by far the most important bread grain) to decrease by more than half, though the losses for wheat and maslin were smaller (10 per cent). Calculated in grain equivalents, the combined loss of bread-grain and potato harvests in 1846 was 66 per cent. As a result, there were only 125 litres of grain equivalents (bread grains and potatoes) available per head, compared to 375 litres in previous years. Because all harvests were affected (half the bean and pea harvests were lost too), the threat of famine loomed in 1846. Luckily, bumper grain harvests in 1847 and reasonable harvests in subsequent years reduced the threat of famine.

Figure 3. Index of potato prices in Eastern and Western Flanders 1841-1850 (1841 = 100).

[insert figure 3 here]

Figure 4: Index of rye prices in Eastern and Western Flanders 1841-1850 (1841 = 100).

[insert figure 4 here]

Source: *Exposé de la situation du Royaume, 1841-1850* (Brussels, 1852).

Prices peaked in the spring of 1847, after the partial failure of grain harvests. Potatoes were sold at 3.5 times the 1844 level. Rye cost 2.4 times as much as in 1844 and wheat cost twice as much. Rice was three times as expensive while peas and beans were 1.8 times as expensive as in 1844. A crisis in the rural flax industry coincided with the subsistence crisis of 1845–1847. Up until then, this industry had provided tens of thousands of Flemish families

with crucial additional income. Labour participation in the Flemish linen industry was still rising during the first decades of the 19th century, and reached more than 300,000 women and men. In the central Flanders textile regions, at least half of the labour force worked part-time in the rural flax and linen industry. Around 1850, it was clear that Flemish flax processing had lost the commercial battle against mechanized cotton and linen production. The actual income of spinners and weavers went into freefall. By 1850, a weaver's daily wage would buy him less than 3.5 kilograms of rye, whereas in 1750 the daily wage was worth four times this amount.

Figure 5: Mortality rates in Eastern and Western Flanders, 1835-1860.

[insert figure 5 here]

Source: *Exposé de la situation du Royaume, 1841-1850* (Brussels, 1852).

Figure 5 highlights the crisis years of 1845–1847. Compared to the reference years of 1841–1845, 1847 had a surplus mortality of 23,000 (+30 per cent), and the period of three years from 1846 to 1848 had a surplus mortality of 44,000 (+15 per cent). The number of births decreased by 47,000 during the same years (–12 per cent). There were 17 per cent fewer marriages. High mortality in 1846-1847 was limited to the geographical area of Inner-Flanders, with averages of up to 47-53 per thousand in 1847. Total excess mortality in the two Flemish provinces was 15,000 (+40 per cent) in 1847 and 29,500 in 1846–1848 (+27 per cent). Life expectancy at birth was markedly lower in the Flemish regions: there was a 32-35 years average in 1841–1850 compared to 37 years in Brabant and more than 39–40 years in the other Belgian provinces. In the crisis years in Flanders, 18 per cent fewer births than

normal and 30 per cent fewer marriages were registered. In the linen district, the declines were 30 per cent and 40 per cent, respectively. Most deaths were a consequence of nutrition-related diseases such as dysentery and typhus. In 1846–1848, typhus was registered in half of the Flemish municipalities (46,000 registered sick persons and 10,000 registered deaths). A cholera epidemic took hold from 1848–1849 resulting in 5,900 registered deaths in Flanders (22,400 deaths in Belgium). Striking differences in local mortality rates were seen, reflecting the impact of local outbreaks of dysentery or typhus. To what extent did these two moments of sudden social stress affect public and private social relations? How did formal and informal mechanisms of coping and protection interact or replace each other? Following the subdivision we made in Tables 1 and 2 we first focus on national and local public action (public actor interventions). We then look at the main forms of informal collective coping strategies (household risk management strategies).

5. Public actor interventions

Public responses to harvest failure and subsistence crises have been frequently described from the viewpoint of national, supra-regional or urban authorities. During both the 1740s and 1840s, the central state played the role of an intervening actor, but with a strikingly different impact. The actions taken by central governments were always part of a larger panorama of social distress circumvention. Firstly, many of the initiatives could only succeed with the active collaboration of local authorities. During both crises, the central state delegated most crisis management tasks to local communities. Secondly, and more importantly, all local communities adopted and organized additional measures to secure food availability and alleviate poverty. These local public interventions are characterized by both intra-village and inter-village community actions.

In 1740 the Austrian government resorted to traditional measures to counter rising prices and ensure access to food. In spring 1739 reports reached Brussels stating that the harvest would be low. In May 1739 the government tried to prohibit exports from the Austrian Netherlands, but regional and urban authorities opposed this measure. Grain production and trade centres used their political power to hold off the export prohibition of grain as long as possible.³⁸ As a result, it was not until late November 1739 that the government decided to prohibit the export of staple foods outside the territory of the Austrian Netherlands. Because the government intervened too late, food had to be imported from the Northern Netherlands. In 1738 only 115 *last* were imported. This number rose to 2351 *last* in 1739 and in 1740 imports peaked at more than 10000 *last*.³⁹ New measures were only taken in March 1740. In addition to food, the export of industrial seeds was prohibited. As this ordinance clearly stated, it was anticipated that the harvest of 1740 would be bad. When prices skyrocketed in May 1740, the government ordered a census of all available grain supplies in the Austrian territory. Measures taken by central authorities depended on the cooperation of local institutions. In particular, parishes were ordered to enumerate the grain supplies in the villages and to organize patrols to ensure public safety and prevent theft and rioting.⁴⁰ Government action during this period was characterized by a lack of efficiency and depth. The measures adopted to ensure food availability came too late due to a lack of detailed information. Furthermore, the measures that were promulgated focused on the import and export of grain and did not structure the internal (re)distribution of available stocks and imports. As a result, local communities coordinated the physical supply of grain. The actions of local rural communities were diverse and seem quite unstructured. Some local communities organised the purchase of grain in the Northern Netherlands and organised finance and transport themselves. In some regions, supra-local institutions such as the *kasselrijen* (or *chatellenies*) played a more active role in organization and coordination.⁴¹ Finally, some

villages also collaborated with the magistrates of the large and small urban centres to buy grain. It is clear that in the 1740s, public actions of local communities were not guided by a real action plan, nor were they coordinated from above.⁴²

In addition to local communities, parochial welfare institutions played an important role in the local food supply. These so-called *armendis* or poor tables had organized parochial-based poor relief since the Middle Ages. In years with average and low prices, these welfare institutions only supported the so-called structurally poor. The expenditure of these *dis* was primarily aimed at ensuring the survival of the more vulnerable members of the local society (children, orphans, elderly, disabled, widows and widowers). These institutions drew their income almost exclusively from charitable donations from the members of the local community. The vast bulk of the expenditure of these poor tables consisted of material assistance either in cash or kind, rent subsidies and free medical aid. During years of dearth, however, the ability of these welfare institutions to aid an increasing number of households without sufficient access to food was limited. Compared to their 19th-century successors and from the viewpoint of modern welfare relief standards, these poor relief institutions were rather inefficient. The level of support these institutions could provide for the poor was determined and limited by the annual income derived from land, annuities and charitable donations.⁴³ Until the late eighteenth century, poor taxes were quite uncommon in this region. As a result, the supply of poor relief in Flanders was highly inelastic.⁴⁴ Because demand for relief exceeded the available resources, poor tables were forced to either concentrate aid on a small fraction of those in need of assistance or to distribute aid less generously over a larger part of the poor.⁴⁵ This became particularly apparent in the crisis of 1740. In 1740 local welfare administrations increased their supply of relief to the needy, but were quickly confronted with the limits to what they could disburse. The number of parishioners applying for poor relief rose sharply, and the average cost of relieving poverty increased substantially.

The accounts of these institutions indicate that expenses increased by some 25 per cent to 40 per cent compared to earlier years and that many *dissen* had to contract debts to finance the rising number of poor parishioners. In the village of Lochristi, more than double of what was distributed to the poor during the years 1738 and 1739 was distributed in 1740. Welfare support dropped again sharply after 1740.⁴⁶ Parochial welfare institutions provided poor relief by distributing money, food, clothing and by paying for medical expenses. They were able to support elevated levels of poverty, but only for a short period. After 1740, the debts that were contracted had to be repaid and this could only be achieved by lowering the expenses again. Because of the way they obtained their income, the local welfare system was not very well suited to counter the sudden effects of food shortages and sharply rising prices. In the 18th century, actions of national and local authorities still lacked planning and coordination, as well as the financial and organizational means to successfully counter a crisis. In this respect, the legal changes instigated by the French Revolution paved the way for a more efficient public policy related to distress relief. After the French Revolution, the income of local relief institutions was supplemented by taxes. Taxation was added to the sources of income of welfare institutions to balance the financial losses sustained by the abolition of tithes and other 'feudal' dues. Financial deficits by local relief institutions were now by law balanced by communal taxation. Especially in the provinces of Eastern and Western Flanders poor relief institutions depended on taxes to generate sufficient resources for the destitute.⁴⁷

In the 1840s, national, regional and local public authorities were much more active and their actions were much more effective.⁴⁸ However, the swift reaction by the central government to the harvest failures of 1845 and 1846 still follows the traditional policy of protecting home markets and controlling the price level of basic foodstuffs. In September 1845, the Belgian government proclaimed that the import of grains, potatoes and other

foodstuffs would be duty free. At the same time, it prohibited the export of bread and biscuits. These laws were extended until the beginning of 1850. The government also bought food from foreign countries. For example, in the spring of 1846 a 100,000 Belgian Francs credit was used to buy 5.5 million kg of seed potatoes. A second policy was to support local governments financially, e.g. to support the rural flax industry. In the years 1845–1847, the national government allotted 4.8 million Belgian Francs to this. Most of it went to the two Flemish provinces (approximately 3 million Belgian Francs). The money also supported the creation of industrial aid committees and working schools. Thirdly, funds were allotted to subsidize public works (in co-operation with town councils on a 50/50 basis). In the 1840s, various government bodies (including town councils) spent 14.7 million Belgian Francs on public works in the two Flemish provinces, compared to 3.9 million Belgian Francs during the previous decade. According to their own calculations, the central government spent 8 million Belgian Francs to alleviate problems during the crisis of 1845–1850s. Finally, projects for land reclamation and drainage were stimulated. The reclamation law of March 1847 forced all the municipalities to sell their uncultivated land and reintroduced tax exemption for newly cultivated land. This did not have an effect in the short-term. Other initiatives, such as colonization, amounted to nothing. The same was true of plans to stimulate overseas emigration.

The shocks of the complex societal crisis of the 1840s were mostly absorbed within village communities. As soon as it became clear that the potato harvest was failing, these village communities responded. They increased poor relief and financed initiatives to create additional jobs (public works, purchase and sales offices for flax, linen yarn and cloth, workhouses, lace ateliers), and the local elites organized food handouts. Local patrols and night watches maintained public order and tried to stop the itinerant poor from entering the village. The main policy instruments were the local poor relief institutions. In 19th century

Belgium, relief policy was still coordinated locally. The aim of the relief system was to provide as much assistance for as long as possible within the (official) municipality or domicile. Communal Law stipulated that each municipality had to have its own local relief institution (*bureaux de bienfaisance*, in bigger cities also *hôpitaux*). Like their predecessors (the *dissen*), the poor relief institutions were administered by a council made up of the local elite. These poor relief institutions were financed by their own resources (movable and immovable possessions) and increasingly by municipal authorities. Municipalities had the right to (and did) collect separate taxes intended for poor relief administration (cities: *octrois*). The poor institutions rarely received financial support from the national government (as they did in 1846–1847). The number of registered poor in Flanders, already high, rose sharply in the crisis years (see Figure 6). In some linen-producing regions and some cities (Bruges, Kortrijk), 40 per cent of the population was registered as (partly) dependent on poor relief in 1847.

Figure 6: Map of Eastern and Western Flanders in 1846: mortality rate and rate of registered poor.

[insert figure 6 here]

Source : *Population. Recensement général de 15 octobre 1846* (Brussels, 1849). Map by Torsten Wiedemann, *HISSTAT - Central database of historic local statistics in Belgium*, Ghent University, History Department

Public intervention in the 1840s was much more planned, interventionist and effective than in the 1740s. In the 18th century, actions were limited to incoherent interventions in the food supply and food markets, and to the temporary alleviation of the strict system of local poor relief. By the mid-19th century, authorities took more initiatives. They intervened in and supplied markets, subsidized the system of poor relief distribution, organized local labour demand (public works, industrial committees, working schools), and coordinated systems of control and repression. This shift towards formal public responses contrasted with a second fundamental process: the decreasing impact of informal collective coping strategies.

6. Collective risk management strategies

In the 1740s, the actions of national and regional authorities were primarily aimed at ensuring access to cheap food through urban market centres. The government tried to ensure the distribution of existing food supplies within rural communities, but it did not take any immediate actions to achieve or impose this. This can be seen as a failure of the central authorities to ensure access to food for all of the inhabitants. However, it is more likely that the government did not deem it necessary to impose this kind of measures at the village level. There are some indications that food was rather efficiently distributed within rural communities without the interference of formal markets or supra-local institutions. It should be noted that the importance of urban market centres for the overall distribution of food was limited. Until the second half of the 19th century, the vast majority of the total food produce was redistributed outside urban markets. Furthermore, by imposing minimum quantities urban market regulations discouraged rural consumers from buying grain in cities. This does not imply that producers in the countryside sold their produce directly to consumers or that every farm can be viewed as a mini-market. In fact, until the late 18th century, legislation explicitly forbade farmers from selling vast quantities of their produce directly to rural consumers.

These measures did allow small quantities of food to be exchanged in the countryside. Indeed, farmers exchanged rather than sold part of their produce directly to rural consumers. This exchange of food took place within a specific context of reciprocity and credit networks. These networks defined the exchange entitlements of rural consumers very differently from their urban counterparts. This explains why the authorities did not take measures for the countryside in 1740. There was simply no need for it. The situation had altered significantly by the 1840s. Both the set of measures and the magnitude of these actions during this crisis suggest that intra-village distributional networks underwent a profound change between 1740 and 1850. This next section discusses how these intra-village networks were organised.

In the 18th century, the countryside of Flanders was characterized by a particular form of intense social interaction.⁴⁹ Most of the holdings were small and supplemented their income with proto-industrial activities and day labouring. These two types of extra-household activities had very different purposes. The increased involvement of Flemish peasantries in the flax and linen cottage industry can be explained primarily by surplus extraction. During the 17th century, the expansion of rural weaving and spinning was incited by increases in state taxation. In the following century, however, proto-industrial expansion was primarily driven by rising land and leasing prices, fuelled by a growing population. Proto-industry enabled smallholders to obtain supplementary income to pay for these rising expenses.⁵⁰ Between 1750 and 1850, proto-industrial activity as a share of total household income became much more important and income (direct or indirect) from farming declined rapidly. In addition to weaving and spinning, small farmers also earned a living as day labourers for larger (village) farms. During late spring and the harvest months, large farms employed men, women and children drawn from a group of smallholders. Smallholders had a surplus of labour power that they could use to engage in proto-industrial activities or to work as a day labourer. In most cases, households engaged in both activities. What distinguishes proto-

industry from day labouring was the security smallholders could gain by selling their labour to larger farms. The relationship between large farms and the labouring households were deeply imbedded within the village community. The labour market in Flemish villages - as far as day labourers are concerned - was highly personalized and aimed at long-term reciprocal relationships. Each large farm in Flanders drew labour from a limited but stable number of households. The relationship between the employers and employees was characterized by intense exchanges of labour, capital and credit. To some extent, these relations constituted a well-balanced rural ecosystem. The core of this ecosystem was the exchange of labour for capital.⁵¹ Smallholders sold part of their household labour power to large farms without being paid in cash. Money was the means of measurement, but it was not the means of exchange.⁵² The value of labour performed by these households served as a credit line that they could draw on from time to time. In most cases, the virtual savings with the employer were used to hire capital goods from the large farms. In particular, small farms hired animal traction (horses) and capital goods (ploughs and wagons) to work their own smallholding. This was in effect a timesaving strategy for the small peasants. Using their employer's horses to plough their own fields saved time that could be used for proto-industrial activities. In addition to labour for capital goods, these exchanges also included other items. Peasants used their credit line to purchase food, fuel, raw materials for proto-industrial production or simply cash when needed.

These relationships, renewed year after year by the mechanism of reciprocal exchange formed the basis of the village economy in 18th century rural Flanders. They structured the distribution of capital, labour, credit and food within rural communities. They also acted as an insurance mechanism on the part of day labourers. In the middle of the 18th century, Flemish smallholders sold surplus labour for exchange entitlements rather than for wages. The existence of these networks is particularly relevant when food crises occurred. A farmer's

account book between 1735 and 1780 sheds light on how these relationships operated during periods of limited food supply like 1740. Like other years, part of the labourer's earnings was paid in food rather than in cash or services. More importantly, these networks also guaranteed a supply of food in the future. The account book recorded agreements indicating that the farmer would deliver specified amounts of food to the labourers at a price and timing agreed upon by both parties.⁵³ These contracts were concluded at market prices and not at farm gate prices so the smallholders did not benefit financially from these agreements. These networks enabled peasant farmers and day labourers to secure food, even in periods of scarcity.

Between 1750 and 1850 this reciprocal exchange system reached its limits. An increasing number of smallholders became disconnected from these informal networks. Large farms still offered services to smallholders, but a rising number of villagers could no longer be absorbed in this exchange system. An increasing share of the rural population was excluded from these support networks based on reciprocal exchange. This is illustrated in Figure 7.⁵⁴ There was a dramatic shift in the ratio of farmers that employed labour and produced surpluses and smallholders that could sell labour and were market dependent. Flanders was characterized by a sharp increase in the number of smallholders that did not produce any food surpluses. In other words, the number of farms that did not produce sufficient quantities of food rose more rapidly than the number of farms that could absorb these smallholders in local exchange networks. Around the middle of the 18th century, there was one large farm per 25 to 30 smallholders. In the second half of the 18th century, this ratio almost doubled. The implications of this change can hardly be overestimated. Households faced with insufficient food supplies had to turn to formal markets or depend on other, more formal networks of distribution to ensure their survival. The sharply increased reliance on formal or external networks by a large share of the rural population is, in our view, the most

important explicans of the different coping strategies during the subsistence crises of the 1740s and the 1840s.

Figure 7: Ratio of farms smaller than 5 ha to farms larger than 15 ha: Anzegem, 1730-1800.

[insert Figure 7 here]

Source: see note 54.

As described above, the pivotal institutions in these formal support networks are the local relief institutions. In the first half of the 19th century, the ratio of the population (mostly temporarily) supported by the official poor institutions rose dramatically to 30 per cent-35 per cent of the total population of the provinces of Eastern and Western Flanders (see Figure 6).⁵⁵ In West-Flanders, total expenditure by municipal relief institutions in 1846–1849 ran up to 9.15 million Belgian Francs, more than the total relief sum of the central government. Only a minor part of these huge costs could be paid for from the institutions' own resources. The remainder came from additional support from the local community and, to a much lesser extent, from the central government, from the sale of properties and from fund raising events. During crisis years, the poor institutions and many of the village administrations were virtually bankrupt and were only able to keep running because of higher taxation, the sale of properties, subsidies and private initiatives organized by the local elites and the Catholic Church. Because village elites withdrew from more informal support initiatives such as funding initiatives and direct bestowing, local authorities had to resort to more forceful fund raising via higher taxes.

This fundamental shift in local crisis management was also reflected in the incidence of criminal activities, particularly theft. Some parishes organized armed patrols to discourage criminal behaviour during the late harvest of 1740. There were reports of grain stolen from the fields. The number of prosecutions for theft increased. In the rural district of Bruges, the number of prosecutions for theft rose from 10 in 1739 to 21 in 1740. However, taking into account the large population in this region, these numbers remained very low. We also recorded an increase in the number of individuals prosecuted under vagrancy laws. The number in the Bruges region rose from one in 1739 to 13 in 1740.⁵⁶ This echoes the general complaint of rising numbers of vagrants in these years, but again, numbers remained low. One century later, the picture had changed dramatically. The crisis of 1845-1847 triggered a jump in criminal statistics.⁵⁷ The number of cases and charges appearing before the criminal court (*Tribunaux correctionnels*) in Belgium increased strongly. In the period 1840-1844, approximately 17,000 to 19,000 cases involving an average of 26,500 suspects were handled per year. By 1847 this had increased to 32,894 cases involving 38,235 suspects, i.e. an increase of almost 50 per cent. The biggest increase in charges concerned mendicancy (9 times higher in 1847, compared to 1840–1841), vagrancy (3 times higher), petty theft (3 times higher), trespassing on public woods and land (2.5 times higher), and pillage (and other minor rural criminal activities) (3.5 times higher). On the other hand, the number of cases of physical violence decreased. The profile of suspects changed too. At the beginning of the 1840s, 19 per cent of suspects were female, and 11 per cent were under sixteen. In the years 1846-1848, a quarter of the suspects were female and at least 20 per cent were under sixteen. Women and children were mainly charged for mendicancy, entering public woods and lands, insulting behaviour, petty theft and stealing crops at night. The number of convictions increased. At the beginning of the 1840s, an average of 78 per cent of suspects were sentenced (and 48 per cent were imprisoned), but by the period 1846-1849 this had risen to 85

per cent (two thirds actually went to prison). Mendicancy, theft and pillage were dealt with more severely. The number of people sentenced to prison remained around 10,000 before the crisis years. This increased to 20,787 in 1846 and 28,348 in 1847, and then fell again. All this information seems to indicate that governments and possibly ordinary citizens were less tolerant in this period. This view is supported by an increase in the number of police by-laws, rising from approximately 200 per year before 1844 up to 1,116 in 1846 and 1,374 in 1847. In Eastern and Western Flanders, the number of arrested and convicted persons rose by 160 per cent and 250 per cent respectively between 1841 and 1847. Most of them were arrested for minor offences and only detained for a short period. The population of prisons (*les maisons centrales*) rose by 25 per cent between the early 1840s and 1847 while the number of prisoners doubled in local arrest houses (*maisons de sureté et d'arrêt*). There was also a sharp increase in the numbers of beggars who often 'worked' in groups. In the winter of 1846–1847, the Bruges police arrested 6,000 beggars. They were mostly sent back to their own villages but some were confined in the *dépôts de mendicité*. From 1845-1850, all rural villages set up their own safety measures such as night patrols and field watches.

It is clear that more poor households engaged in theft in order to ensure their survival, and the level of subsequent repressive actions was much higher in the 1840s than the 1740s.

7. Discussion

Recent famine research has substantially increased our understanding of the way famines, or the threats of famine, 'work' within specific societal contexts. This implies a careful measuring of food availability and human suffering, as well as an evaluation of the vulnerability of livelihoods, such as the formal or informal security networks regarding food, income and survival. To understand the strategies of risk management we need to focus on 'established' famine cases and we have to analyze near-famines or non-famines. As Murton

stated, the real understanding of famines as social events lies not in the ‘triggers’ that cause famines, but in the ‘normal’ economic and political sphere in which they occur (or are prevented).⁵⁸ This runs parallel with the argument of David Arnold that famine as both a sociological concept and a historical phenomenon presents us with a fundamental paradox: it is both event and structure. Famines are exceptional human experiences within a finite space and time span, but they also act as revealing commentaries upon society’s deeper and more enduring successes and failures.⁵⁹

1740 and 1845-1847 were severe food crises that did not turn into famines in the traditional sense. The peasant economy and village society were able to absorb the main shocks of these crises. The way this happened differed greatly, due to structural changes in the rural economy between 1750 and 1850. Our research concentrated on the way Flemish village society coped with the sudden stress following quickly decreasing food availability during two different moments in time. To understand the impact of a food crisis, we need information on the extent of the agricultural and demographic crises and on the absorption capacities of the local society. These include formal and informal networks of entitlement and support, and networks that supplement and substitute each other. Cooperative, informal arrangements and the legal organisation of risk sharing and assistance only collapse under the most extreme circumstances.⁶⁰ Genuine famines are always accompanied by a serious breakdown of existing social networks. Institutions fail and informal patterns of cooperation collapse. Neither happened during the severe subsistence crises in Flanders in the 1740s and the 1840s. Food shortages and high food prices were met by the local village society. In the 1840s this was only possible with much more effort and difficulty due to the deeper impact of the subsistence crisis and, most importantly, due to the rapidly decreasing strength of intra-village exchange networks. The margins of resilience, still substantial in the middle of the 18th century, were completely absorbed a century later by the combined effects of fast

population growth and decreasing returns from farm and proto-industrial labour. Nonetheless, and contrary to the infamous Irish example, a severe Flemish famine was avoided because of the survival of the small but mixed and productive peasant farms, and by the swift and sometimes anticipatory actions of the local and supra-local institutions.⁶¹

In both cases, the social effects of the subsistence crisis were almost exclusively endured by the village economy. The way this happened differed extensively. In the 1740s, public actions were limited to trade and import regulations. As described above, intra-village distributional networks guaranteed household exchange entitlements for most of the rural population. Small and larger farms were interconnected by labour relations, which in turn supported reciprocal networks of capital and services.⁶² By the 1840s, these local credit systems were largely undermined by population pressure, the exhaustion of the mixed and flexible peasant economy, and the gradual retirement of the local elites from the former village economy. The rural poor had to address formal relief structures more often than before. The elites resorted to institutional initiatives of aid, employment and repression more than ever before. This was backed by an active state apparatus, both in a legal and a financial sense. Village externalities were more prominent in the 1840s than in the 1740s. Social developments between 1750 and 1850 required a new institutional and social framework. A decline in the number of households that could participate in intra-village security networks resulted in the erection of replacement networks that were largely state created and funded.

If famine can be viewed as a tragic magnification of normal market and governmental failures, non-famines or near-famines must be analyzed within the context of local survival structures.⁶³ Local societies' vulnerabilities to economic distress depend on three critical factors: the impact of the crisis, the social and economic order, and the way people keep control of their own fate (individual, in the household, in the local community). As Walter and Schofield noted, 'Famine is a collective problem, starvation an individual fate.'⁶⁴ This

collective level includes the rate of social differentiation (along income, gender, and age), the strength of local institutions, and the structure of the regional economy. Further comparative research must deepen our knowledge regarding the impact of peasant versus commercialized agriculture on the vulnerability to famine. As Walter and Schofield have argued, the disappearance of large-scale famines in England in the late 17th century is related to the remarkable increase in agricultural production and to the strengthening and formalization of local entitlement support: 'Protection against dearth and the provision of grain came publicly and formally through the system of communally organized and funded welfare provision represented by the poor law'.⁶⁵ Our research suggests that a rise in formal protection systems may have different causes and divergent outcomes in historic Flanders and in a wider West European context.

¹ The authors would like to thank the anonymous referees for their constructive remarks. Both authors are affiliated with the History Department at Ghent University.

² E. Vanhaute, 'From famine to food crisis. What history can teach us about local and global food crises', *Journal of Peasant Studies* **38** (2011), 47-65.

³ P. Walker, *Famine early warning systems: victims and destitution* (London, 1989), 6.

⁴ Martin Ravallion, 'Famines and economics', *Journal of Economic Literature*, **35**(1997), 1206-1207.

⁵ Stephen Devereux, 'Sen's entitlement approach. Critiques and counter-critiques', in Stephen Devereux ed., *The new famines. Why famines persist in an era of globalization* (London and New York, Routledge, 2007), 66-89 (citation p. 84)

⁶ Devereux, 'Sen's entitlement approach', 83.

⁷ B. Currey and G. Hugo eds., *Famine as a geographical phenomenon* (Dordrecht, 1984), 1.

⁸ B. Murton, 'Famine', in K.F. Kiple and K.C. Ornelas eds., *The Cambridge world history of food* (Cambridge, 2000), 1414.

⁹ P. Howe and S. Devereux, 'Famine intensity and magnitude scales: a proposal for an instrumental definition of famine', *Disasters* **28** (2004), 356-358.

¹⁰ 'The history of hunger is for the most part unwritten. The hungry rarely write history, and historians are rarely hungry.' See Sara Millman and Robert W. Kates, 'Toward understanding hunger', in Lucile F. Newman et al. eds., *Hunger in history. Food shortage, poverty, and deprivation* (Oxford, 1990), 22. 'Interestingly enough, it is more often demographers and economists, geographers, anthropologists and political scientists, rather than historians, who have made the running in the recent discussions of famine and who have advanced many of the

most challenging theories'. David Arnold, *Famine. Social crisis and historical change* (Oxford, 1988), 1. Referring to famine studies, Walter and Schofield state: 'As their contributions amply demonstrate, there is still plenty of life in the historical study of death'. See J. Walter and R. Schofield eds., 'Famine, disease, and crisis mortality in early modern society', in J. Walter and R. Schofield eds, *Famine, disease and the social order in early modern society* (Cambridge, 1989). 4.

¹¹ Ravallion, 'Famines and economics', 1223-1224.

¹² Ravallion, 'Famines and economics', 1208. See e.g. the contributions on the non-Irish cases in C. Ó Gráda, R. Paping, and E. Vanhaute eds., *When the potato failed: causes and effects of the last European subsistence crisis, 1845-1850* (Turnhout, 2007). In fact, devastating famines lasting more than one year, so-called back-to-back famines, are rare in world-historical perspective. See C. O'Grada, *Famine: a short history* (Princeton-Oxford, 2009), 8.

¹³ Tommy Bengtsson, 'Living standards and economic stress', in Tommy Bengtsson et al. eds., *Life under pressure. Mortality and living standards in Europe and Asia, 1700-1900* (Cambridge, 2004), 37-38.

¹⁴ Murton, 'Famine', pp. 1416-1418.

¹⁵ Emmanuel Skoufias, 'Economic crises and natural disasters. Coping strategies and policy Implications', *World Development* **31** (2003), 1087-1102.

¹⁶ For some contemporary English views of Flemish husbandry during this period see J. Shaw, *Sketches of the history of the Austrian Netherlands* (London, 1786), 143-159; P. Laurents, 'Cursory observations on the husbandry of Austrian Flanders and parts of Brabant', *Annals of Agriculture* **1** (1784), 222-251; T. Radcliff, *A report on the agriculture of eastern and western Flanders drawn up at the desire of the Farming Society of Ireland* (London, 1819); W. Rham, *Outlines of Flemish husbandry* (London, 1838).

¹⁷ On agriculture in Flanders during this period see E. Thoen and E. Vanhaute, 'The Flemish husbandry at the edge: the farming system on small holdings in the middle of the 19th century', in: B.J.P. van Bavel and E. Thoen eds., *Land productivity and agro-systems in the North Sea area (Middle Ages-20th century)* (Turnhout, 1999), 271-296; E. Vanhaute and L. van Molle, 'Het einde van de overlevingslandbouw, 1750-1880', in Y. Segers and L. van Molle eds., *Leven van het land. Boeren in België 1750-2000* (Louvain, 2004), 13-47 and E. Vanhaute, 'So worthy an example to Ireland. The subsistence and industrial crisis of 1845-1850 in Flanders', in C. O Grada, Paping and Vanhaute eds., *When the potato failed*, 123-125.

¹⁸ On Flemish agriculture from a long-term perspective see E. Thoen, 'A commercial survival economy in evolution. The Flemish countryside and the transition to capitalism (Middle Ages-19th century)', in P.

Hoppenbrouwers and J. L. Van Zanden eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages -19th century) in light of the Brenner debate* (Turnhout, 2001), 102-157.

¹⁹ C. Vandenbroeke, *Agriculture et alimentation dans les Pays-Bas autrichiens* (Ghent, 1975), 621–626

²⁰ Vanhaute, 'So worthy', 125-130.

²¹ G. Dejongh, *Tussen immobiliteit en revolutie. De economische ontwikkeling van de Belgische landbouw in een eeuw van transitie, 1750-1850*. (Louvain, 1999), unpublished PhD Thesis, 256.

²² For foreign views on Flemish agriculture see the list in J. David, *Boeken betreffende de Belgische landbouw verschenen voor 1850* (Louvain, 1975), 81-87.

²³ See E. Vanhaute, 'Rich agriculture and poor farmers: land, landlords and farmers in Flanders in the eighteenth and nineteenth centuries', *Rural History* **12** (2001), 19-40.

²⁴ Vandenbroeke, *Agriculture*, 76-236 and C. Vandenbroeke, 'De graanpolitiek in de Oostenrijkse Nederlanden', *Revue belge de philologie et d'histoire* **45** (1967), 369-387.

²⁵ Research into the relationship between high prices and mortality has shown that throughout the seventeenth century English mortality rates were less determined by changes in price levels than France. The link between increased mortality and food prices was particularly strong in France. Also, the frequency of these crises was higher in France compared to England .See D. Weir, 'Life under pressure: France and England, 1670-1870', *Journal of Economic History* **44** (1984), 27-48 and A.B. Appleby, 'Grain prices and subsistence crises in England and France, 1590-1740', *Journal of Economic History* **39** (1979), 865-887.

²⁶ John D. Post, *Food shortage, climatic variability, and epidemic disease in preindustrial Europe* (Ithaca and London, 1985), 30-50.

²⁷ Van Houtte, *Leuven in 1740, een krisisjaar. Economische, sociale en demografische aspecten*. (Brussels, 1962), 18.

²⁸ Calculations based on price series in J. Craeybeckx, S. Scholliers and C. Verlinden, *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant* (Bruges, 1959), vol. 1, 62-66, 88-90 and 224-229.

²⁹ Vandenbroeke, *Agriculture*, 154-155.

³⁰ M. Savels, *Een bijdrage tot de studie van de crisis van 1740: Brugge en het Brugse Vrije* (Ghent, unpublished MA diss. Ghent University, 2003), 5 and C. Cooman, *Een bijdrage tot de studie van de crisis van 1740: de kasselrij Oudenaarde* (Ghent, unpublished MA diss. Ghent University, 2004), 15-16.

³¹ See E. Thoen, 'Social agrosystems as an economic concept to explain regional differences', in: B.J.P. van Bavel and P. Hoppenbrouwers eds., *Landholding and land transfer in the North Sea area (late Middle Ages-19th century)* (Turnhout, 2004), 47-66.

³² C. Vandenbroeke, 'Cultivation and consumption of the potatoe in the 17th and 18th century', *Acta Historiae Neerlandica* **5** (1971), 15-39 and C. Vandenbroeke, 'La culture de la pomme de terre en Belgique (XVIIe-XIXe siècles)', in *Plantes et cultures nouvelles au Moyen Age et à l'époque moderne* (Toulouse, 1992), 192-202.

³³ The method we used was calculating the deviation of the seven-year moving average for burials between 1735 and 1744. A deviation of + 20 per cent or index number higher than 120 points to elevated mortality. We owe this method to Prof. Dr. Isabelle Devos (Ghent University).

³⁴ These parishes were randomly selected from an unpublished database containing data on vital events (births, marriages and burials) and poor relief expenditure in 35 parishes in Flanders between 1735 and 1745. More information on these parishes can be obtained at request.

³⁵ Post, *Food shortage*, 247-248.

³⁶ Post, 'Climatic variability and the European mortality wave of the early 1740s', *Journal of Interdisciplinary History* **15** (1984), 1-30.

³⁷ This section is based on Vanhaute, 'So worthy an example', 130-136

³⁸ Vandenbroeke, *Agriculture*, 153-154 and City Archives Ghent, Series 107, nr. 1: Resolutie dd. 09/05/1739.

³⁹ One last equalled approximately 3000 litres. For data on the import of grain from the Dutch Republic during these years see State Archives Brussels, *Conseil des Finances*, nr. 5847.

⁴⁰ Vandenbroeke, *Agriculture*, 153-156.

⁴¹ 'Kasselrijen' (Dutch) or 'chatellenies' (French) were institutions founded during the middle ages. These institutions were primarily engaged in collecting taxes for the central government. During the early modern period however kasselrijen intervened more actively in the economic, social and fiscal policies of local communities and parishes. On these institutions see the various entries in W. Prevenier and B. Augustyn eds., *De gewestelijke en lokale overheidsinstellingen in Vlaanderen tot 1795* (Brussels, 1997), 363-531.

⁴² For local reactions to the management of the food crisis see Van Houtte, *Leuven in 1740*; Savels, *Een bijdrage tot de studie van de crisis van 1740: Brugge en het Brugse Vrije*; Cooman, *Een bijdrage tot de studie van de crisis van 1740: de kasselrij Oudenaarde*; K. Van Honacker, *Lokaal verzet en oproer in de 17^{de} en 18^{de} eeuw. Collectieve acties tegen het centraal gezag in Brussel, Antwerpen en Leuven* (Courtrai, 1994), 414-417, 429-430 and 432.

⁴³ See P. Bonenfant, *Le problème du paupérisme en Belgique à la fin de l'Ancien Régime* (Brussels, 1934), 172-175 for a general view on how these 'armendissen' operated and E. Vanhaute, 'De armenzorg op het Antwerpse platteland: onderzoek naar een instelling tijdens de scharniereeuw', in *Les structures du pouvoir dans les communautés rurales en Belgique et dans les pays limitrophes (XIIe-XIXe siècle)* (Brussels, 1988), 625-677 for a more detailed examination of these local welfare institutions.

⁴⁴ As can be inferred from the accounts of these institutions. See L. van Buyten, 'De ellendelingen in de moderne bronnen der Zuidelijke Nederlanden', *Tijdschrift voor Geschiedenis* **88** (1975), 539-550.

⁴⁵ C. Lis and H. Soly, 'Armoede in de nieuwe tijden tot omstreeks 1850', in: L. De Mecheleer ed., *De armoede in onze gewesten van de middeleeuwen tot nu* (Brussels, 1991), 47.

⁴⁶ State archives Ghent, *Parochial Archives of Lochristi*, nr. 356-370. In some parishes there were no financial margins for additional relief in 1740. See for example the accounts of the poor table of Kaprijke in State Archives Ghent, *Old Archives Kaprijke*, nrs. 128-139.

⁴⁷ See Vanhaute, 'De armenzorg', 625-677.

⁴⁸ This section is based on Vanhaute, "'So worthy an example'", 137-139.

⁴⁹ This section is based on T. Lambrecht, 'Reciprocal exchange, credit and cash: agricultural labour markets and local economies in the southern Low Countries during the eighteenth century', *Continuity and Change* **18** (2003), 237-261 and T. Lambrecht, *Een grote hoeve in een klein dorp. Relaties van arbeid en pacht op het Vlaamse platteland tijdens de 18de eeuw* (Ghent, 2002), 75-184. For similar exchange systems, operating in the neighbouring French regions, see D. Rosselle, 'La vente des biens nationaux et le changement des structures de l'exploitation agricole: l'exemple artésien', in: G. Gayot and J.-P. Hirsch eds., *La Révolution française et le développement du capitalisme* (Lille, 1989), 311-319.

⁵⁰ E. Thoen, 'A commercial survival economy', 102-147.

⁵¹ This is also apparent from debts listed in probate inventories. See R. Vermoesen, 'Paardenboeren in Vlaanderen. Middelaars en commercialisering van de vroegmoderne rurale economie in de regio Aalst', *Tijdschrift voor Sociale en Economische Geschiedenis*, **7** (2010), 3-37 and A. De Bie and R. Vermoesen, 'Boeren en hun relaties op het Vlaamse platteland (1750-1800)', *Tijdschrift voor Geschiedenis*, **121** (2008), 430-445.

⁵² Cfr. C. Muldrew and S. King, 'Cash, wages and the economy of makeshifts in England, 1650-1800', in: P. Scholliers and L. Schwarz eds., *Experiencing wages. Social and cultural aspects of wage forms in Europe since 1500* (New York and Oxford, 2003), 161.

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- ⁵³ T. Lambrecht, 'Peasant labour strategies and the logic of family labour in the Southern Low Countries during the 18th century', in: *The economic role of the family in the European economy from the 13th to the 18th centuries* (Florence, 2009), 645-646.
- ⁵⁴ T. Lambrecht, *Krediet en de rurale economie in Vlaanderen tijdens de 18^{de} eeuw* (Ghent, unpublished PhD thesis Ghent University, 2007), 204.
- ⁵⁵ Vanhaute, "'So worthy an example'", 139
- ⁵⁶ Savels, *Een bijdrage*, 45-48.
- ⁵⁷ This section is based on Vanhaute, "'So worthy an example'", 136-137.
- ⁵⁸ Murton, *Famine*, 1425.
- ⁵⁹ Arnold, *Famine. Social crisis and historical change*, 6-7.
- ⁶⁰ Ravallion, 'Famines and economics', 1210.
- ⁶¹ Vanhaute, 'So worthy an example', 141-146.
- ⁶² On the benefits of this system for the smallholders see Lambrecht, 'Peasant labour strategies', 634-651.
- ⁶³ Ravallion, 'Famines and economics', 1236.
- ⁶⁴ See Walter and Post, 'Famine, disease and mortality Crisis', 26. 'The social order mattered: as a critical determinant of demographic change, and as the basis of political as well as economic institutions, it fashioned the conditions of death, no less than those of life.' (*ibid*, 73).
- ⁶⁵ *Ibid*, 46-48 (citation on 46).